

CLAIMS

1. An apparatus for processing harvested dermal tissue supported on a cutting surface, comprising:
 - a housing presenting a handle having a gripping surface and a cutting head attached to the handle;
 - a cutting assembly connected to the cutting head, the cutting assembly including a plurality of spaced apart blade tips that are configured to cut through the harvested tissue as the cutting assembly rotates along the cutting surface to produce sliced tissue;
 - a receptacle disposed downstream of the cutting assembly, the receptacle receiving the sliced tissue from the cutting blades.
2. The apparatus as recited in claim 1, the cutting assembly being supported by an axle extending through the cutting head.
3. The apparatus as recited in claim 1, the cutting head presenting a beveled base laterally aligned with the cutting assembly.
4. The apparatus as recited in claim 1, further comprising a tissue separator including a base supported by the housing and a plurality of tines extending outwardly from the base and configured to interdigitate between adjacent blade tips, wherein the tines remove sliced tissue lodged in the cutting assembly.
5. The apparatus as recited in claim 4, the blade tips being spaced apart by spacer members having a diameter less than a cutting blade diameter, and wherein the tines engage the spacer members.
6. The apparatus as recited in claim 4, the separator engaging a lower portion of the cutting assembly.
7. The apparatus as recited in claim 6, the tines presenting corresponding cam surfaces that bias the lodged tissue downwardly towards the cutting surface.
8. The apparatus as recited in claim 4, the separator coupling the cutting assembly to the receptacle.

9. The apparatus as recited in claim 8, the tines presenting corresponding cam surfaces that remove the sliced tissue from the cutting assembly and provide a conduit for the sliced tissue to travel towards the receptacle.

10. The apparatus as recited in claim 9, the separator engaging an upper portion of the cutting assembly.

11. The apparatus as recited in claim 4, wherein the separator can be actuated between a stand-by position and an engaged position.

12. The apparatus as recited in claim 11, the separator being hingeably attached to the housing.

13. The apparatus as recited in claim 11, wherein the separator is slideably received by the housing.

14. The apparatus as recited in claim 4, wherein the separator is a lower separator that biases sliced tissue towards the cutting surface, further comprising an upper separator presenting tines configured to interdigitate between adjacent blade tips, wherein the tines direct sliced tissue lodged in the cutting assembly towards the receptacle.

15. The apparatus as recited in claim 1, further comprising a second engagement surface for providing additional downward force to the cutting assembly

16. The apparatus as recited in claim 15, wherein the second engagement surface is a second handle.

17. The apparatus as recited in claim 16, wherein the handle can be actuated between a storage position and an engaged position.

18. The apparatus as recited in claim 1, wherein the blade tips are spaced apart a distance between 100 and 5000 microns.

19. The apparatus as recited in claim 18, wherein the blade tips are spaced apart a distance between 200 and 1200 microns.

20. The apparatus as recited in claim 1, wherein the sliced tissue presents an edge dimension between 100 and 5000 microns.

21. The apparatus as recited in claim 20, wherein the sliced tissue presents an edge dimension between 200 and 1200 microns.

22. The apparatus as recited in claim 1, wherein the blade tips are formed in a corresponding plurality of rotatable blades.

23. The apparatus as recited in claim 22, further comprising spacer members disposed between adjacent blades.

24. The apparatus as recited in claim 23, further comprising an axle coupled to the cutting head that supports the blades in a rotatable configuration with respect to the cutting head.

25. An apparatus for processing harvested dermal tissue, comprising:
a housing presenting a handle having a gripping surface and a cutting head attached to the handle;
a cutting assembly connected to the cutting head, the cutting assembly including a plurality of spaced apart blade tips that are configured to cut through the harvested tissue as the cutting assembly rotates along the cutting surface to produce sliced tissue
a tissue separator including a base supported by the housing and a plurality of tines extending outwardly from the base and configured to interdigitate with adjacent cutting blade tips, wherein the tines remove sliced tissue lodged in the cutting assembly.

26. The apparatus as recited in claim 25, further comprising a receptacle supported by the housing and disposed downstream of the cutting assembly, the receptacle receiving sliced particles from the separator.

27. A method for processing harvested dermal tissue supported on a cutting surface using a device having a housing that supports a cutting assembly including a plurality of spaced apart cutting blade tips, the method comprising the steps of:
bringing the blade tips into contact with the harvested tissue such that the blade tips engage the cutting surface;
translating the device along the cutting surface in a first direction to cut through the tissue to produce sliced tissue.

28. The method as recited in claim 27, further comprising the step of separating the sliced tissue from the cutting assembly.

29. The method as recited in claim 27, further comprising the step of biasing the sliced tissue towards the cutting surface.

30. The method as recited in claim 27, further comprising the step of biasing the sliced tissue towards a receptacle.

31. The method as recited in claim 27, further comprising the steps of:
placing the sliced tissue on the cutting surface;
bringing the cutting blades into contact with the sliced tissue such that the cutting blades engage the cutting surface;
translating the device along the cutting surface in a second direction different than the first direction to cut through the sliced tissue and produce further sliced tissue.

32. The method as recited in claim 31, further comprising engaging a plurality of tines with the cutting assembly to direct the further sliced tissue from the cutting assembly towards a receptacle.